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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,431	06/30/2003	Yoshitsugu Nakatomi	086305-0109	7161

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EXAMINER

LEUNG, PHILIP H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,431

Applicant(s)

NAKATOMI, YOSHITSUGU

Examiner

Philip H. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimaru (US 2000-029332) (newly cited), in view of Kato (US 5,713,069) (previously cited).

Ishimaru shows “a fixing device employing an induction heating coil system comprising: a heating roller 7 having an induction heating coil” (see Figures 1-4 and the English abstract). It uses different winding pitch (higher number of coil turns) on both ends of the heating roller in order to compensate the heating deficiency instead of a covering member having a heat accumulation (or a heat generating) member as claimed. Kato shows “a fixing device employing an induction heating coil system 12, comprising: a heating roller 10 having an induction heating coil 12 disposed therein, a pressing roller 11 for pressing said heating roller 10, and preheating member 30 is the claimed covering member having a heat accumulating/generating member secured thereto (see Figures 1-3 and col. 3, line 28 – col. 6, line 34). Furthermore, as it teaches that “the circular arc-shaped portion 31 is arranged to cover the fixing roller 10 as widely as possible and by setting the distance between the surface of the fixing roller 10 and itself as small as possible, the distance from the area where the induction magnetic flux generates is shortened. In addition to this, the quantity of heat of the heat generating portion can be made smaller

allowing the temperature to rise faster” (col. 5, lines 33-45). Therefore it can be seen that the circular arc member 31 obviously extends to the width of the paper and the heating roller in order to cover the whole paper. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Ishimaru to use a cover member having a heat accumulation or generating member instead of the use of an induction heating coil having a higher number of coil turns at both ends of the heating roller as the device to compensate for the insufficient heating for better uniform heating result, in view of the teaching of Kato. In regard to claims 2 and 5, the use of an insulating member to cover a heating device to reduce heating loss is routine in the art of electric heaters (see Kato, col. 7, lines 33-44 and claim 18). In regard to claims 3 and 6-8, the use of circular pipe with an opening as the shape of the covering member would have been a matter of engineering variations of the circular arc of Kato depending on the exact amount of desired heating.

3. Applicant's arguments filed 10-7-2005 have been fully considered but they are not persuasive. Ishimaru clearly teaches every feature as claimed except for the use of a different “heating arrangement” at both ends of the heating roller to compensate the heating insufficiency at the ends. More particularly, it recognized that the temperature is not uniform along the entire surface of heating roller because the center generates more heat than both ends. It uses denser coil winding at each end to generate more flux for more heating to achieve uniform heating temperature. However, the use of a heating member having a heat accumulating/generating member in an induction heat fixing roller is shown by Kato. Therefore, once it is taught by Ishimaru that both ends of a heating roller need heating compensation and the use of a cover

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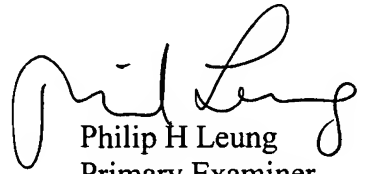
member for providing additional heating in a heating roller is shown by Kato, one of ordinary skill in the art at the time of invention would have readily learnt to modify Ishimaru to use any known heating device including the covering member of Kato to additionally heat the ends of the heating roller instead of the use of an induction heating coil having a higher number of coil turns to compensate for the insufficient heating. Obviously, two such covering members are needed in order to cover both ends as both ends of the heating roller suffer same heat deficiency as taught by Ishimaru. Furthermore, it is pointed out that the claim limitation "said covering member is disposed on both ends of the heating roller" does not exclude the covering of the whole roller including the center portions of the heating roller. Therefore, the arguments that "the preheating member 30 of Kato is arranged along the entire length of the fixing roller" and "Kato teaches away from shortening the preheating member 30 so that it covers only end portions of the heating roller" are without merit. As pointed out by the applicant, Kato uses a covering member for additional heating without separately providing a new source clearly provide a suggestion that this can be used to replace the heating compensating arrangement of Ishimaru as both references achieve the same purpose without a new heat source. Therefore, the "hindsight reconstruction" argument is not well taken.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip H Leung whose telephone number is (571) 272-4782.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 472-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip H Leung
Primary Examiner
Art Unit 3742

P.Leung/pl
11-9-2005